CLAIMS

1. A method of heat-sealing at least one synthetic film of thermoplastic material onto a container made of at least one synthetic thermoplastic material, particularly a container for packaging products susceptible to microbiological contamination, particularly a container for packaging products that are susceptible to microbiological contamination, more specifically, perishable biological or commodities such as agricultural produce, using at least a first and a second thermal electrode, characterized in that:

At least the first said thermal electrode is stabilized by controlling the variation in heat flux emitted by this electrode;

A temperature difference between the two electrodes is regulated by controlling the heat flux flowing between said first and said second electrode, said heat flux resulting from the temperature disequilibrium existing between the two electrodes and the variation in thermal resistance corresponding to the physical state of the synthetic plastic material;

The pressure exerted by at least one of the electrodes on the synthetic thermoplastic material is regulated by controlling the instantaneous variation in heat flux resulting from the thermal energy absorbed by the melting of the synthetic thermoplastic material; and

A device for cooling the synthetic thermoplastic material is regulated by controlling the instantaneous variation in heat flux resulting from the thermal energy restored by the synthetic thermoplastic material when it crystallizes.

2. A method according to claim 1 characterized in that the said first thermal electrode is stabilized and in that a temperature difference between the two electrodes is regulated by controlling the heat fluxes using at least one heat flux sensor associated with said thermal electrodes.

3. A method according to claim 1 characterized in that the pressure exerted by at least one thermal electrode on the synthetic thermoplastic material is regulated by

means of a cylinder associated with said electrode.

4. A method according to claim 1 characterized in that the cooling of the synthetic material is regulated by chilling at least one of the thermal electrodes.

5. A device for heat-sealing at least one film of synthetic thermoplastic material onto a container made of at least one synthetic thermoplastic material, particularly a container for packaging products susceptible to microbiological contamination, more specifically, perishable biological or commodities such as agricultural produce, using at least a first and a second thermal electrode (11, 12) to implement the method of claim 1, characterized in that said device comprises:

A means for stabilizing at least said first thermal electrode (11) by controlling the variation in heat flux emitted by this electrode;

A means for regulating a temperature difference between the two electrodes (11, 12) by controlling the heat flux flowing between said first electrode and said second electrode, said heat flux resulting from the temperature disequilibrium between the two electrodes and the variation in thermal resistance corresponding to the physical state of the synthetic thermoplastic material;

A means for regulating the pressure exerted by at least one of the electrodes onto the synthetic thermoplastic material by controlling the instantaneous variation in heat flux resulting from the thermal energy absorbed by the melting of the synthetic thermoplastic material;

A means for regulating a device for cooling the synthetic thermoplastic material by controlling the instantaneous heat flux variation resulting from the thermal energy restored by the synthetic thermoplastic material when it crystallizes.

6. A device according to claim 5 characterized in that said means for stabilizing at least said first thermal electrode (80) by controlling the variation in heat flux emitted by said electrode comprises a heat flux sensor (82) and a thermofluximetric regulator (86) associated with said thermal electrode.

7. A device according to claim 5 characterized in that said means for regulating a

temperature difference between the two electrodes by controlling the heat flux flowing between said first and said second electrode, said heat flux resulting from the temperature disequilibrium between the two electrodes and the variation in thermal resistance corresponding to the physical state of the synthetic thermoplastic material comprises at least one heat flux sensor associated with each of the thermal electrodes and a thermofluximetric regulator connected to these sensors and to these electrodes.

8. A device according to claim 5 characterized in that said means for regulating the pressure exerted by at least one of the electrodes onto the synthetic thermoplastic material by controlling the instantaneous variation in heat flux resulting from the thermal energy absorbed by the melting of the synthetic thermoplastic material comprises a cylinder (14) associated with said thermal electrode (11).

9. A device according to claim 5 characterized in that said means for regulating a device for cooling the synthetic thermoplastic material by controlling the instantaneous variation in heat flux resulting from restoration of thermal energy by the synthetic thermoplastic material as it crystallizes comprises at least one cooling channel (71) located inside at least one of the thermal electrodes (70).

10. A device according to claim 5 characterized in that at least one of the thermal electrodes comprises a heating bar (41; 51; 81).

11. A device according to claim 5 characterized in that at least one of the thermal electrodes comprises a thermal capacitor (34; 45; 72).

12. A device according to claim 5 characterized in that at least one of the thermal electrodes is attached to a flexible flock (36; 48; 58).

13. A device according to claim 12 characterized in that said thermal electrode is housed in said flexible block which is attached to a support (37; 49; 59) on the heat-sealing device.

14. A device according to claim 5 characterized in that said thermal electrode (11; 12) comprises an integrated resistor element (11b;11e; 12b; 12e).